

WHAT IS CLAIMED IS:

1. A system for treating vasculature, comprising:  
a main component having at least four apertures; and  
at least two extension components each of which including a portion  
configured to sealingly engage with one of the four apertures.

2. The system of claim 1, further comprising a main delivery catheter  
configured to deliver the main component within vasculature.

3. The system of claim 1, further comprising a delivery catheter including  
structure that receives at least one of the extension components.

4. The system of claim 3, wherein the delivery catheter is configured to  
accomplish the sealing engagement of at least one of the extension components with  
the main component in situ.

5. The system of claim 1, wherein the system is configured to treat  
vasculature characterized by having a first vessel being proximately located and in fluid  
communication with at least four separate vessel portions, the main component  
positionable in the first vessel portion and each of the extension components extending  
from the main component to one of the four separate vessel portions.

6. The system of claim 5, wherein each of the four separate vessels branch  
from the first vessel portion.

7. The system of claim 1, the main component further comprising an  
anchoring device attached to a superior end thereof.

8. The system of claim 7, the anchoring device further comprising a generally sinusoidal frame and at least one wall engaging member attached to the frame.

9. The system of claim 7, the anchoring device further comprising a flat wire frame, the flat wire frame embodying structure to enable the anchoring device to compress to a small diameter and to expand to a large diameter.

10. The system of claim 7, wherein the anchoring device is self-expanding.

11. The system of claim 1, the extension components further comprising a support structure.

12. The system of claim 11, wherein the support structure extends an entire length of the extension component.

13. The system of claim 11, wherein the support structure is self-expanding.

14. The system of claim 11, wherein the support structure is attached to an inside of the extension components.

15. The system of claim 1, wherein the main component has a generally tubular configuration with a superior end, a midsection and an inferior end, a first aperture of the at least four apertures positioned at the superior end, and a second aperture of the at least four apertures positioned at the inferior end.

16. The system of claim 1, the main component further comprising a plurality of tubular portions extending therefrom, each of the tubular portions terminating with one of the at least four apertures.

17. The system of claim 15, wherein the midsection of the main component has a circumference which is less than a circumference of each of the superior and inferior ends.

18. The system of claim 15, wherein the superior and inferior ends have different circumferences.

19. The system of claim 15, further comprising an inferior extension component.

20. The system of claim 15, the inferior end further comprising mating structure for mating with the inferior extension component.

21. The system of claim 20, the mating structure further comprising a suture routed about an interior circumference of the inferior end.

22. The system of claim 19, the inferior extension component further including a support structure extending a length thereof.

23. The system of claim 15, wherein the main component has five apertures.

24. The system of claim 15, the main component further comprising an anchoring device attached to the inferior end.

25. The system of claim 19, the inferior extension component further comprising a first end, a second end and an anchoring device attached to the second end.

26. The system of claim 20, the inferior extension component further comprising complimentary mating structure that engages the mating structure of the main component.

27. The system of claim 1, further comprising a plurality of guidewires, each of the guidewires configured to be routed through an interior of the main component and out one of the at least four apertures.

28. A system for treating vasculature, comprising:  
a main component including a superior end, an inferior end, and a midsection including at least three limbs, wherein each of the superior and inferior ends and the limbs include an aperture; and

5 at least three limb extension components each of which are configured to mate with one limb.

29. The system of claim 28, further comprising a series of delivery catheters configured to deliver the main component and limb extension components within vasculature.

30. The system of claim 29, wherein the main component and limb extension components are assembled in situ.

31. The system of claim 30, wherein the superior end includes structure that attaches within a first portion of a first vessel and the inferior end includes structure that attaches to a second portion of the first vessel.

32. The system of claim 31, wherein each of the limb extension components include a mating end that engages an aperture of one midsection limb and a second end for attachment to a vessel in fluid communication with and extending at an angle from the first vessel.

33. The system of claim 31, the main component further comprising a supporting structure extending a length thereof.

34. The system of claim 31, the main component further comprising an anchoring element attached to one of the superior or inferior ends.

35. The system of claim 28, further comprising an inferior end extender member configured to mate with the inferior end of the main component.

36. A method of treating vasculature characterized by having a first vessel in fluid communication with a plurality of vessel portions lying at an angle from the first vessel using a system including a main component having a superior end, an inferior end and at least four apertures in combination with at least three extension components each having a mating end and an anchoring end, comprising:

delivering the main component within the first vessel;

attaching the superior end of the main component within the first vessel;

configuring the mating ends of each of the three extension components into engagement with one of the apertures of the main component.

37. The method of claim 36, further comprising attaching the anchoring ends of each of the extension components to one of the vessel portions lying at an angle from the first vessel.

38. The method of claim 36, wherein the system includes an inferior extension component having a mating end and an anchoring end and further comprising attaching the mating end of the inferior extension component to the inferior end of the main component and the anchoring end of the inferior extension component to the first vessel.

39. The method of claim 36, further comprising attaching the inferior end of the main component to the first vessel.

40. The method of claim 36, wherein the system includes a plurality of guidewires and delivery catheters, further comprising configuring each of the guidewires through the inferior end of the main component and out one of the apertures of the main component.

41. The method of claim 40, further comprising advancing a delivery catheter along each of the guidewires.

42. A method for treating vasculature characterized by including a first vessel and a plurality of vessel portions in fluid communication therewith and lying at an angle to the first vessel using a graft device having a superior end, an inferior end and a midsection having at least three tubular portions extending therefrom, comprising:

delivering the graft device within the vasculature;

attaching the superior end of the graft device within the vasculature;

attaching each of the tubular portions to one of the vessel portions lying at an angle from the first vessel; and  
attaching the inferior end of the graft device to the first vessel.

Precedence